BIBLIOGRAPHY AND INDEX OF CATALOGUES OF TYPE, FIGURED AND CITED FOSSILS IN MUSEUMS IN GREAT BRITAIN AND IRELAND (SUPPLEMENT 1975–1996)

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ABSTRACT. Data on the substantial holdings of type, figured and cited fossils in many institutions in Great Britain and Ireland are summarized in numerous published catalogues, which are an indispensable aid in tracing material especially for taxonomic studies. Taxonomic, stratigraphical and museum location indexes are provided for catalogues published over the past 20 years. Some useful unpublished reports containing similar information are also noted.

A PREVIOUS collation of documented holdings of type, figured and cited fossils in museums and other institutions throughout the British Isles listed over 100 catalogues produced since the early 1890s (Bassett 1975). Over the past 20 years or so this data base has expanded considerably with the publication of about three-quarters as many again catalogues, notes and reports that identify collections or individual specimens within these categories. Reasons for this significant expansion are varied, but they are welcome in demonstrating the growth of collective institutional and individual responsibilities to ensure that essential reference collections are properly curated and conserved for the future, and that details of them are widely publicized (see Bassett 1975, pp. 754–755). The compilations continue to form indispensable reference sources for palaeontologists. In addition, they also serve to emphasize the growing acceptance of responsibility by many institutions in meeting the requirements for safeguarding type material as summarized under Recommendation 72G of the International Code of Zoological Nomenclature (International Trust for Zoological Nomenclature 1985, p. 147). It is relevant here to repeat this Recommendation of the Code which states that:

Every institution in which name-bearing types are deposited should
(1) ensure that all are clearly marked so that they will be unmistakably recognized as name-bearing types;
(2) take all necessary steps for their safe preservation;
(3) make them accessible for study;
(4) publish lists of name-bearing types in its possession or custody; and
(5) so far as possible, communicate information concerning name-bearing types when requested.

Much of the impetus for the growing production of these data in the British Isles stems from the work and encouragement of the Geological Curators' Group (GCG), formed in 1974 and working since 1976 as a Specialist Group of the Geological Society, London. Initially through its *Newsletter*, and since 1980 via its more formal publication, *The Geological Curator*, the GCG has regularly published catalogue data and tracked down many individual specimens and collections that were previously 'missing' or presumed to be irretrievably lost, including material in private collections. Among the positive results of these detailed searches is the fact that a good many specimens in private collections have now been donated to institutions for safe keeping and wider availability for scientific study, and some organizations without properly trained palaeontological

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and/or conservation staff have similarly transferred material to museums in order to ensure the same aims.

The influential survey and report on the state and status of geological collections throughout UK museums, also generated by the GCG (Doughty 1981), gave added stimulus to museums to investigate and to document properly their holdings of fossils. This report discovered, for example, that of 64 museums known to house type fossil material, 35 had no qualified curatorial staff, and many others of the 288 admitting to housing geological collections knew very little in detail of their contents. Activities of GCG members were focused sharply by the Doughty report in order to remedy these deficiencies. At the same time, activities of the larger museums with full time curatorial staff continued to include the publication of type/figured/cited catalogues. Collectively, this multitude of activity since 1975 forms the basis for this bibliography and index, although a few pre-1975 publications overlooked in the earlier compilation (Bassett 1975), are also included.

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Most of the publications listed here contain inventory data for individual fossil specimens with information on the repository, museum registration numbers, type data (where applicable), and details of page, plate, and figure numbers in a previous publication referring to the particular specimen. Descriptive taxonomic publications are not included. In the few cases where all the inventory/reference data are not quoted, details will generally allow an individual specimen to be identified.

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INDEX

The tripartite arrangement of the index (Taxonomic, Stratigraphical, Museums) follows that of Bassett (1975). In the taxonomic and museums indexes, the date of a publication is not given after the authors' names in cases where those authors have only one publication under their name in the bibliography; both names and dates are given in all other cases. Major taxonomic groupings are generally at Phylum level, or within commonly employed classificatory divisions that will be immediately familiar to palaeontologists. Where authors of catalogues have not themselves separated their specimens into the groupings adopted here, their genera and species are included as undifferentiated members of the highest appropriate division listed. The stratigraphical index is generally broken down to the level of geological Systems. In the Museums index, italicized information in square brackets draws attention to formal changes that have taken place in institutional names, and also to cases where material may have been transferred from one institution to another subsequent to its initial listing or description in publications.

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PERMIAN: Eagar and Preece; Nudds 1992*a*; Pattison; Rolfe *et al.*
TRIASSIC: Owens and Bassett; Rolfe *et al.*
JURASSIC: Boyd 1983; Crane 1980*a*; Eagar and Preece; Manceñido and Damborenea; Nudds 1992*a*; Owens and Bassett; Parkes and Sleeman; Pyrah 1977; Rolfe *et al.*; Strachan; Torrens 1978*b*
CRETACEOUS: Benton; Pyrah 1977; Radley; Rolfe *et al.*
CENOZOIC: Pyrah 1977
EOCENE: Rolfe *et al.*
OLIGOCENE: Phillips, P. W.; Rolfe *et al.*
MIOCENE: Rolfe *et al.*
PLIOCENE: Rolfe *et al.*; Torrens 1983
QUATERNARY: Pyrah 1977
PLEISTOCENE: Rolfe *et al.*
HOLOCENE: Owens and Bassett; Phillips, P. W.; Rolfe *et al.*
Cephalopoda [Undifferentiated]:
AGE NOT INDICATED: Benton and Trewin
ORDOVICIAN: Benton; Owens and Bassett; Parkes and Sleeman; Phillips, D. 1982*b*; Rolfe *et al.*; Tunnicliff
SILURIAN: Owens and Bassett; Parkes and Sleeman; Phillips, D. 1982*b*; Smith 1989, 1996
OLD RED SANDSTONE: Smith 1989
DEVONIAN: Phillips, D. 1982*b*
CARBONIFEROUS: Nudds 1982*b*, 1988, 1992*a*; Owens and Bassett; Parkes and Sleeman; Phillips, D. 1982*b*; Pyrah 1978; Rolfe *et al.*
PERMIAN: Pattison
TRIASSIC: Phillips, D. 1982*b*; Rolfe *et al.*
JURASSIC: Clark; Nudds 1992*a*; Owens and Bassett; Phillips, D. 1982*b*; Pyrah 1978; Rolfe *et al.*; Strachan
CRETACEOUS: Nudds 1992*a*; Owens and Bassett; Phillips, D. 1982*b*; Pyrah 1978; Rolfe *et al.*
EOCENE: Rolfe *et al.*
MIOCENE: Phillips, D. 1982*b*
Coleoidea:
PERMIAN: Phillips, D. 1982*a*

PROTOZOA:
Foraminiferida:
AGE NOT INDICATED: Murray and Taplin
ORDOVICIAN: Benton
CARBONIFEROUS: Adams *et al.*; Campbell; Nudds 1982*a*, 1988; Rolfe *et al.*
PERMIAN: Rolfe *et al.*
TRIASSIC: Adams *et al.*
JURASSIC: Adams; Owens and Bassett; Rolfe *et al.*
CRETACEOUS: Adams *et al.*; Benton
CENOZOIC: Adams *et al.*
EOCENE: Adams *et al.*; Benton; Rolfe *et al.*
MIOCENE: Adams *et al.*; Rolfe *et al.*
PLIOCENE: Rolfe *et al.*
HOLOCENE: Adams; Adams *et al.*; Benton; Joysey
Radiolaria:
JURASSIC: Rolfe *et al.*
RADIOLARIA:
See **PROTOZOA [Radiolaria]**
ROSTROCONCHIA:
See **MOLLUSCA [Rostroconchia]**
RUGOSA:
See **CNIDARIA [Anthozoa: Rugosa]**
SCAPHOPODA:
See **MOLLUSCA [Scaphopoda]**
SCLERACTINIA:
See **CNIDARIA [Anthozoa: Scleractinia]**
SCOLECODONTS:
See **ANNELIDA [Scolecodonts]**
SCYPHOZOA:
See **CNIDARIA [Scyphozoa]**
STELLEROIDEA:
See **ECHINODERMATA [Stelleroidea]**
STROMATOPOROIDEA:
See **PORIFERA [Stromatoporoidea]**
SYMBIOSIS:
Annelida/Brachiopoda:
SILURIAN: Nudds 1983
Mollusca [Bivalvia]/Brachiopoda:
SILURIAN: Nudds 1983
Mollusca [Nautiloidea]/Annelida:
SILURIAN: Nudds 1983
Mollusca [Nautiloidea]/Brachiopoda:
SILURIAN: Nudds 1983, 1988
SYNXIPHOSURA:
See **ARTHROPODA [Synxiphosura]**
TABULATA:
See **CNIDARIA [Anthozoa: Tabulata]**
TENTACULITIDA:
See **CRICOCONARIDA [Tentaculitida]**
TRACE FOSSILS:
See **ICHNOFOSSILS**
TRILOBITA:
See **ARTHROPODA [Trilobita]**
TRILOBITOMORPHA:
See **ARTHROPODA [Trilobitomorpha]**
UNKNOWN:
See **PROBLEMATICA**
XIPHOSURA:
See **ARTHROPODA [Xiphosura]**
ZOANTHARIA:
See **CNIDARIA [Anthozoa: Zoantharia]**

VERTEBRATA

UNDIFFERENTIATED:
JURASSIC: Torrens 1978*b*
AMPHIBIA:
CARBONIFEROUS: Boyd 1986; Boyd and Turner; Nudds 1983, 1992*a*; Rolfe *et al.*; Wyse Jackson and Monaghan
AVES:
CRETACEOUS: Pyrah 1979*a*
QUATERNARY: Pyrah 1979*a*
CONODONTA:
ORDOVICIAN: Nudds 1988; Owens and Bassett
SILURIAN: Owens and Bassett
CARBONIFEROUS: Nudds 1983, 1988; Owens and Bassett; Rolfe *et al.*
MAMMALIA:
AGE NOT INDICATED: Rolfe *et al.*
TRIASSIC: Duffin 1978
JURASSIC: Pyrah 1979*a*
CENOZOIC: Pyrah 1979*a*
PALEOGENE: Radley
MIO-PLIOCENE: Rolfe *et al.*
QUATERNARY: Campbell; Pyrah 1979*a*; Rolfe *et al.*
PLEISTOCENE: Boyd 1983; Nudds 1983, 1988, 1992*a*; Radley; Rolfe *et al.*
PISCES:
AGE NOT INDICATED: Andrews
SILURIAN: Campbell; Rolfe *et al.*; Smith 1989
OLD RED SANDSTONE: Campbell; Nudds 1992*a*; Paton 1976, 1981; Pyrah 1979*a*; Rolfe *et al.*; Smith 1989, 1996
DEVONIAN; Butler; Nudds 1983, 1992*a*; Owens and Bassett; Paton 1981; Rolfe *et al.*
CARBONIFEROUS: Campbell; Nudds 1992*a*; Owens and Bassett; Parkes and Sleeman; Paton 1976; Pyrah 1979*a*; Rolfe *et al.*; Wyse Jackson and Monaghan
PERMIAN: Paton 1976; Pyrah 1979*a*
TRIASSIC: Duffin 1978; Nudds 1992*a*; Owens and Bassett

JURASSIC: Boyd 1983; Cross 1975*a*, 1975*b*; Duffin 1978; Powell and Edmonds; Pyrah 1979*a*; Torrens 1978*b*
CRETACEOUS: Pyrah 1979*a*
CENOZOIC: Pyrah 1979*a*
EOCENE: Nudds 1983
PLIOCENE: Rolfe *et al.*
PLEISTOCENE: Rolfe *et al.*
HOLOCENE: Nudds 1992*a*

PROBLEMATICA: [*See also* **INVERTEBRATA PROBLEMATICA** *and* **PLANTAE PROBLEMATICA**]
AGE NOT INDICATED: Benton and Trewin

REPTILIA:
AGE NOT INDICATED: Benton and Trewin
DEVONIAN: Parkes and Sleeman
PERMIAN: Rolfe *et al.*
TRIASSIC: Benton and Trewin; Duffin 1978; Nudds 1992*a*; Rolfe *et al.*
JURASSIC: Boyd 1983; Cross 1975*a*, 1975*b*; Duffin 1978, 1979; Nudds 1983, 1992*a*; Owens and Bassett; Powell and Edmonds; Pyrah 1979*a*; Rolfe *et al.*; Torrens 1978*b*
CRETACEOUS: Crane and Getty; Pyrah 1979*a*; Radley; Rolfe *et al.*
PALEOGENE: Radley
PLIOCENE: Rolfe *et al.*
HOLOCENE: Rolfe *et al.*

VERTEBRATE FOOTPRINTS:
CARBONIFEROUS: Sarjeant
PERMIAN: Rolfe *et al.*; Sarjeant
TRIASSIC: Sarjeant
JURASSIC: Pyrah 1979*a*; Rolfe *et al.*; Sarjeant
CRETACEOUS: Radley; Sarjeant

PLANTAE

UNDIFFERENTIATED:
SILURIAN: Nudds 1989
OLD RED SANDSTONE: Nudds 1984, 1992*a*
DEVONIAN: Crane 1980*b*; Nudds 1984; Parkes and Sleeman
CARBONIFEROUS: Crane 1980*b*; Eagar and Preece; Hancock *et al.*; Newman and Chatt-Ramsey; Nudds 1984, 1989, 1992*a*; Parkes and Sleeman; Phillips, P. W.; Pyrah 1979*a*; Strachan
PERMIAN: Nudds 1992*a*; Pattison
TRIASSIC: Crane 1980*b*; Phillips, P. W.
JURASSIC: Crane 1980*b*; Newman and Chatt-Ramsey; Nudds 1992*a*; Powell and Edmonds: Pyrah 1979*a*; Torrens 1978*b*
CRETACEOUS: Crane 1980*b*; Hancock *et al.*
CENOZOIC: Hancock *et al.*
PALEOGENE: Parkes and Sleeman
OLIGOCENE: Crane and Getty

ACRITARCHA:
CAMBRIAN: Nudds 1984
ORDOVICIAN: Nudds 1984
SILURIAN: Nudds 1984, 1989
CARBONIFEROUS: Nudds 1984

ALGAE: [*See also* **PLANTAE PROBLEMATICA**]
AGE NOT INDICATED: Benton and Trewin
CAMBRIAN: Crawley
ORDOVICIAN: Benton; Crawley
SILURIAN: Crawley; Owens and Bassett; Smith 1989
OLD RED SANDSTONE: Crawley
DEVONIAN: Crawley
CARBONIFEROUS: Campbell; Crawley; Owens and Bassett; Rolfe *et al.*
PERMIAN: Crawley
TRIASSIC: Crawley
JURASSIC: Crawley
CRETACEOUS: Crawley
PALEOCENE: Crawley
EOCENE: Crawley
OLIGOCENE: Crawley
MIOCENE: Crawley
PLIOCENE: Crawley
PLEISTOCENE: Crawley
HOLOCENE: Crawley

ANGIOSPERMAE:
See **TRACHEOPHYTA [Angiospermae]**

DIATOMS: (BACILLARIOPHYTA)
EOCENE: Williams
OLIGOCENE: Williams
HOLOCENE: Williams

MEGASPORES:
DEVONIAN: Parkes and Sleeman

MIOSPORES:
CAMBRIAN: Nudds 1984
ORDOVICIAN: Nudds 1984
SILURIAN: Nudds 1984, 1989
DEVONIAN: Nudds 1984, 1989; Parkes and Sleeman
CARBONIFEROUS: Nudds 1984, 1989; Parkes and Sleeman
JURASSIC: Parkes and Sleeman

PROBLEMATICA: [*See also* **INVERTEBRATA PROBLEMATICA** *and* **VERTEBRATA PROBLEMATICA**]
SILURIAN: Owens and Bassett: Parkes and Sleeman
DEVONIAN: Owens and Bassett

?Algae
AGE NOT INDICATED: Rolfe *et al.*

PTERIDOPHYTA:
DEVONIAN: Rolfe *et al.*
CARBONIFEROUS: Campbell; Rolfe *et al.*; Wyse Jackson and Sleeman

TRACHEOPHYTA:
Undifferentiated:
SILURIAN: Owens and Bassett
DEVONIAN: Owens and Bassett
CARBONIFEROUS: Owens and Bassett
PERMIAN: Owens and Bassett
TRIASSIC: Owens and Bassett
CRETACEOUS/TERTIARY: Owens and Bassett
Angiospermae:
CENOZOIC: Rolfe *et al.*
?PALEOCENE: Campbell

STRATIGRAPHICAL INDEX

ATA [Undifferentiated] [Asteroidea] [Echinoidea] [Ophiuroidea], MOLLUSCA [Bivalvia] [Cephalopoda: Undifferentiated] [Coleoidea] [Gastropoda] [Nautiloidea], PISCES, PROTOZOA [Foraminiferida]

Oligocene: *See* ALGAE, ARTHROPODA [Chelicerata: Arachnida] [Crustacea: Branchiopoda] [Crustacea: Malacostraca], CNIDARIA [Undifferentiated], DIATOMS, ECHINODERMATA [Echinoidea], MOLLUSCA [Bivalvia] [Gastropoda], PLANTAE [Undifferentiated]

Oligocene–Miocene: *See* ECHINODERMATA [Echinoidea]

Neogene: ARTHROPODA [Crustacea: Ostracoda]

Miocene: *See* ALGAE, ARTHROPODA [Chelicerata: Arachnida] [Crustacea: Cirripedia] [Crustacea: Malacostraca] [Crustacea: Ostracoda], BRACHIOPODA, BRYOZOA, CNIDARIA [Undifferentiated], ECHINODERMATA [Undifferentiated] [Echinoidea], MOLLUSCA [Bivalvia] [Cephalopoda: Undifferentiated] [Gastropoda] [Nautiloidea], PROTOZOA [Foraminiferida]

Mio-Pliocene: *See* MAMMALIA

Pliocene: *See* ALGAE, ARTHROPODA [Undifferentiated] [Crustacea: Cirripedia] [Crustacea: Malacostraca], BRYOZOA, CNIDARIA [Undifferentiated] [Hydrozoa], ECHINODERMATA [Undifferentiated] [Echinoidea], MOLLUSCA [Undifferentiated] [Bivalvia] [Gastropoda], PISCES, PROTOZOA [Foraminiferida], REPTILIA

Quaternary: *See* ARTHROPODA [Undifferentiated], AVES, BRYOZOA, CNIDARIA [Undifferentiated], ECHINODERMATA [Undifferentiated], MAMMALIA, MOLLUSCA [Amphineura] [Bivalvia] [Gastropoda] [Scaphopoda]

Pleistocene: *See* ALGAE, ARTHROPODA [Undifferentiated] [Chelicerata: Arachnida] [Crustacea: Cirripedia] [Crustacea: Malacostraca] [Crustacea: Ostracoda] [Myriapoda], BRYOZOA, CNIDARIA [Undifferentiated], ECHINODERMATA [Undifferentiated] [Echinoidea], MAMMALIA, MOLLUSCA [Bivalvia] [Gastropoda], PISCES

Holocene: *See* ALGAE, ANNELIDA [Undifferentiated], ARTHROPODA [Crustacea: Undifferentiated] [Crustacea: Cirripedia] [Crustacea: Ostracoda], BRACHIOPODA, BRYOZOA, CNIDARIA [Anthozoa: Octocorallia] [Anthozoa: Scleractinia] [Hydrozoa], DIATOMS, ECHINODERMATA [Undifferentiated], MOLLUSCA [Bivalvia], PISCES, PROTOZOA [Foraminiferida], REPTILIA

MUSEUMS INDEX

Hancock *et al.*; Hodgkinson; Joysey; Lewis 1986, 1993; Morris 1980, 1988; Morris and Fortey; Newman and Chatt-Ramsey; Phillips, D. 1977, 1982*a*, 1982*b*; Pyrah 1976, 1978; Smith 1989, 1996; Torrens 1978*a*, 1978*b*, 1983; Torrens and Taylor; Tripp and Howells; Williams

NEWCASTLE UPON TYNE: *See* HANCOCK MUSEUM, NEWCASTLE UPON TYNE

NORTH DEVON ATHENAEUM, BARNSTAPLE: *See* MUSEUM OF NORTH DEVON, BARNSTAPLE

NORTHAMPTON: See CENTRAL MUSEUM AND ART GALLERY, NORTHAMPTON

NORWICH: *See* CASTLE MUSEUM, NORWICH

NOTTINGHAM UNIVERSITY GEOLOGY DEPARTMENT: Sarjeant

OXFORD: *See* UNIVERSITY MUSEUM, OXFORD

PETERBOROUGH CITY MUSEUM AND ART GALLERY: Cross 1975*a*, 1975*b*

PORTSMOUTH: *See* UNIVERSITY OF PORTSMOUTH

ROCHDALE MUSEUM: Steward and Torrens

ROWLEY'S HOUSE MUSEUM, SHREWSBURY: Sarjeant

ROYAL ALBERT MEMORIAL MUSEUM, EXETER: Murray and Taplin

ROYAL SCOTTISH MUSEUM, EDINBURGH [*See also* NATIONAL MUSEUMS OF SCOTLAND, EDINBURGH]: Andrews; Baird; Benton; Morris 1988; Paton 1976, 1981

SALFORD MUSEUM OF MINING: *See* LANCASHIRE MINING MUSEUM, SALFORD

SCARBOROUGH: *See* WOOD END MUSEUM OF NATURAL HISTORY, SCARBOROUGH

SEDGWICK MUSEUM, CAMBRIDGE: Benton; Cocks; Crane and Getty; Morris 1988; Newman and Chatt-Ramsey; Smith 1989

SHEFFIELD CITY MUSEUM: Morris 1988; Riley

SHERBORNE SCHOOL MUSEUM [*All type specimens transferred to The Natural History Museum, London*]: Torrens 1978*b*

SHREWSBURY: *See* ROWLEY'S HOUSE MUSEUM, SHREWSBURY

SOUTHGATE MUSEUM, LAUNCESTON: Morris 1988

TORQUAY MUSEUM: Morris 1988

TRINITY COLLEGE, DUBLIN [GEOLOGICAL MUSEUM]: Cocks; Morris 1988; Nudds 1982*a*, 1982*b*, 1982*c*, 1983, 1984, 1988, 1989; Tunnicliff; Wyse Jackson and Monaghan; Wyse Jackson and Sleeman

TULLIE HOUSE MUSEUM AND ART GALLERY, CARLISLE: Cocks; Morris 1988

ULSTER MUSEUM, BELFAST: Tunnicliff

UNIVERSITY OF CAMBRIDGE, ZOOLOGICAL MUSEUM: Adams; Joysey

UNIVERSITY MUSEUM, OXFORD: Andrews; Cocks; Knell; Morris 1988; Newman and Chatt-Ramsey; Powell and Edmonds; Pyrah 1978

UNIVERSITY OF PORTSMOUTH [*Formerly Portsmouth Polytechnic*]: Torrens and Taylor

WELLCOME INSTITUTE [*All type specimens transferred to the Natural History Museum, London*]: Torrens 1983

WHITBY MUSEUM: Pyrah 1976

WOLLATON HALL NATURAL HISTORY MUSEUM, NOTTINGHAM: Morris 1988

WOOD END MUSEUM OF NATURAL HISTORY, SCARBOROUGH: Newman and Chatt-Ramsey

WORCESTER CITY MUSEUM AND ART GALLERY: Cocks; Smith 1989

YORKSHIRE MUSEUM: Manceñido and Damborenea; Pyrah 1976, 1977, 1978, 1979*a*, 1979*b*; Sarjeant

UNPUBLISHED INFORMATION

As a result of our soliciting information from many institutions while compiling this bibliography, a number of curators kindly commented on the status and availability of unpublished draft catalogues or on work in progress in identifying type, figured and cited specimens. These comments are quoted briefly here as they will be helpful to anyone suspecting that specimens they are attempting to trace might be in a particular museum. We have not seen the various manuscript catalogues quoted, and details from them are not included in the above indexes. Card index records in museums are not listed.

BIRMINGHAM UNIVERSITY, LAPWORTH MUSEUM. 'The type and figured catalogue was initiated by Laurie and... is in manuscript only but is available upon request. The Type and Figured Collection currently comprises 2593 type, figured and cited specimens. A full computerised re-cataloguing programme is underway and a Type and Figured Catalogue will be published when this is completed'. [Paul Smith, Lapworth Museum, pers. comm. 1995]

BOOTH MUSEUM OF NATURAL HISTORY, BRIGHTON. Typescript for type and figured catalogue available. [John Cooper, Booth Museum, pers. comm. 1995]

BRITISH GEOLOGICAL SURVEY, KEYWORTH, NOTTINGHAM. 'From 1984/5 all of BGS's type and figured palaeontological material from England and Wales has been housed at Keyworth. This includes all the material formerly housed at the Geological Museum, London, and the (mostly Carboniferous) collections held in Leeds from about 1959 to the time of the Keyworth move. Non-figured/cited material in the 'Survey Collection' was relocated at the same time. Most of the Scottish type and figured material which was housed at Murchison House in Edinburgh is now also at Keyworth (for exceptions see *Coprolite*, **14**, p. 2, 1994' [a newsletter of the Geological Curators' Group]). 'However, no comprehensive catalogue has been produced. The Type and Stratigraphic Collection amounts to approximately 250,000 specimens of which at least 30,000 are type/figured/cited specimens plus about 10,000 microfossils of similar status (Nudds 1994).... Although BGS has begun to enter this information on the database, it will be many years before time allows completion. In the meantime, type material is accessible through the collections themselves, through the registers and through annotated copies of most journals and books. There are various as-yet-unpublished lists of donors, purchases and so on which can be made accessible and which, in part, formed the basis of' [the] 'entry for the Survey under "Institute of Geological Sciences" Cleevely (1983).... These are also useful in tracking down type material.' [Steve Tunnicliff, BGS Keyworth, pers. comm. 1995]

CENTRAL MUSEUM AND ART GALLERY, NORTHAMPTON. 'Much work has been carried out on the type, figured and cited specimens...' in the Beeby Thompson collection. It is hoped to produce a draft listing in the near future. [Angela Edgar, Central Museum, Northampton, pers. comm. 1995]

HULL CITY MUSEUMS. Draft catalogue of the numerous type, figured and cited fossils lost in 1943 (prepared by P. J. Boylan) is available in typescript. [Heather Rayfield, Hull City Museums, pers. comm. 1995]

NATIONAL MUSEUM OF IRELAND, DUBLIN. A number of typescript catalogues are 'available for research workers, and copies of sections of them have also been made available for various scientists in advance of publication. All are intended for publication eventually...' These include:

Types, figured and cited specimens of fossils in the collection of Sir Richard John Griffith (1784–1878) including all specimens used by Frederick M'Coy in his works of 1844 and 1846. [for publication 1996]
Types, figured and cited specimens of fossil plants in the collections of the National Museum of Ireland.
Ditto... fossil cephalopods...
Ditto... Lower Palaeozoic invertebrates...
Ditto... fossil fish...
Ditto... fossil amphibians...
Ditto... fossil reptiles... [Nigel Monaghan, pers. comm. 1995]

SEDGWICK MUSEUM, UNIVERSITY OF CAMBRIDGE. Catalogue of complete collections stored on computer. 'Complete hard-copy versions of the catalogue and a taxonomic index are generated periodically on microfiche' [R. B. Rickards, *Geology Today*, **1**, p. 184.]

SUPPLEMENTARY REFERENCES

In addition to the publications listed above in the main Bibliography, valuable information on the location of numerous other palaeontological collections is included in various sources. The following list is not necessarily comprehensive, but does include the main compilations referring to material in the British Isles published over the past 20 years. Especially valuable in many of them is information on collectors and the present whereabouts of their collections, which may lead investigators towards potential repositories of hitherto untraced type specimens. Information in square brackets following the references gives a summary of the scope of the publication. Further useful supplementary sources include the continuing 'Lost and Found' series in *The Geological Curator* (indexed up to 1987 in Vol. 5, No. 2; and indexed for 1987 to 1994 in Vol. 6, No. 4) and the 'Museum File' series published since 1985 in *Geology Today* (published six times a year by Blackwell Scientific Publications Ltd in association with the Geological Society of London and the Geologists' Association); this latter series summarizes the scope of palaeontological and other collections in museums throughout the British Isles, generally with reference to major collectors and important publications. Because of the importance of adopting the highest standards of curatorial procedures in storing and maintaining type collections, we also include here a number of recent references that specifically cover procedures for curation of geological materials.

ARNOLD-FORSTER, K. 1989. *The collections of the University of London: a report and survey of the museums, teaching and research collections administered by the University of London.* London Museums Service, 41 pp. [Covers the history, development, scope (in very general terms), and current condition of collections in all London University colleges. The existence of some figured and cited specimens is noted].

BASSETT, M. G. 1975. Bibliography and index of catalogues of type, figured and cited fossils in museums in Britain. *Palaeontology*, **18**, 753–773.

—— (ed.). 1979. Curation of palaeontological collections. *Special Papers in Palaeontology*, **22**, 1–280. [Covers the role of collections and curators, curatorial problems and procedures, techniques, and exhibits].

BATEMAN, J., McKENNA, G. and TIMBERLAKE, S. (eds). 1993. *Natural science collections in south east Britain.* Published for the South Eastern Collections Research Unit and AMMSEE by the Museum Documentation Association, 283 pp. [Lists collections under collectors' name, and includes summaries of nature of collections, status, etc.].

BRUNTON, C. H. C., BESTERMAN, T. P. and COOPER, J. A. (eds). 1985. *Guidelines for the curation of geological materials.* Geological Society Miscellaneous Paper, No. 17, 209 pp. [Prepared by the Geological Curators' Group, this loose-leaf manual covers acquisition, documentation, preservation, hazards and uses of geological material].

CHILD, R. E. (ed.). 1994. *Conservation of geological collections. Proceedings of a conference held at the Welsh Folk Museum, National Museum of Wales, 4 November 1993.* Conservation Monograph Series, Archetype Publications, London, for the National Museum of Wales and the Council of Museums of Wales, 65 pp.

CLEEVELY, R. J. 1983. *World palaeontological collections.* British Museum (Natural History), London, 365 pp. [Includes records of collections held in British and Irish institutions, together with information on the presence of type, figured, cited specimens and associated catalogues].

COLLINS, C. (ed.). 1995. *The care and conservation of palaeontological material.* Butterworth-Heinemann Ltd, Oxford, 139 pp.

CROWTHER, P. R. 1990. Collection care and status material. 515–517. *In* BRIGGS, D. E. G. and CROWTHER, P. R. (eds). *Palaeobiology: a synthesis.* Blackwell, Oxford, xii + 583 pp.

—— (ed.). 1992. Proceedings of a GCG meeting, Geology in Irish Museums, Trinity College Dublin, 21–22 June 1990. *Geological Curator*, **5**, 261–300. [Summarizes the history and general content of collections in Trinity College Dublin, National Museum of Ireland, Geological Survey of Ireland, University College Galway].

DAVIS, P. and BREWER, C. (eds). 1986. *A catalogue of natural science collections in north-east England.* North of England Museums Service, 333 pp. [Gives list of collectors, plus summary of nature of collections and repositories].

DOUGHTY, P. S. 1981. *The state and status of geology in United Kingdom museums. Report on a survey conducted on behalf of the Geological Curators' Group.* Geological Society of London, Miscellaneous Paper No. 13, 118 pp. [Comprehensive source of reference, based on questionnaires returned from *c.* 570 museums. Survey covered size, storage, named collections, condition, catalogue systems, geographical coverage. Appendices summarize scope of collections listed by collectors' names, cross-referenced with index of museums covered].

HANCOCK, E. G. and PETTITT, C. W. (eds). 1981. *Register of natural science collections in N.W. England.* Manchester Museum, 188 pp. [Lists contents of geological, botanical, zoological collections in museums and related institutions, plus details of collectors, and existence of types].

HARTLEY, M. M., NORRIS, A., PETTITT, C. W., RILEY, T. H. and STIER, M. A. (eds). 1987. *Register of natural science collections in Yorkshire and Humberside.* Area Museum Service for Yorkshire and Humberside. [Gives list of collectors, summary of nature of collections and status, etc.].

INTERNATIONAL TRUST FOR ZOOLOGICAL NOMENCLATURE 1985. *International Code of Zoological Nomenclature, third edition, adopted by the XX General Assembly of the International Union of Biological Sciences.* University of California Press, Berkeley and Los Angeles, 338 pp.

NUDDS, J. R. 1994. *Directory of British Geological Museums.* Geological Society of London, Miscellaneous paper, No. 18, 141 pp. [Includes published catalogues, status of collections, etc.].

PAINE, C. (ed.). 1993. *Standards in the museum. 3. Care of geological collections.* Museums and Galleries Commission, London, 57 pp.

STACE, H. E., PETTITT, C. W. E. and WATERSTON, C. D. 1987. *Natural science collections in Scotland.* National Museums of Scotland, 404 pp. + 8 microfiches. [Gives comprehensive summary of nature of collections, and status. All types of institution listed].

WEBBY, B. D. (compiler) 1989. *Fossil collections of the world: an international guide.* International Palaeontological Association, Washington D.C. vi + 214 pp. [United Kingdom section covers national,

county/city and university museums. Summarizes size and scope of collections and indicates published catalogues and type material].

WIKTOR, J. and RYDZEWSKI, W. 1991. *Bibliography of catalogues of type specimens in [the] world's zoological and palaeozoological collections*. Wroclaw University Press, Poland, 308 pp. Paperback [In English]. [Publication not seen, but referred to in Cooper's book review of Kabat and Boss in *Geological Curator*, **5**, 372].

Acknowledgements. We are most grateful to the many curators who have given us information about the collections for which they are responsible, especially data that supplement the published records. Dr R. M. Owens kindly discussed various queries throughout the course of our compilation.

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NOTE ADDED IN PROOF

Subsequent to submission of the manuscript, two further publications have been issued which give additional information on collections and individual specimens relevant to this compilation. They are noted here for reference and completeness but their contents are not included in the above indexes.

HARPER, D. A. T. and PARKES, M. A. 1996. Geological Survey donations to the Geological Museum in Queen's College Galway: 19th Century inter-institutional collaboration in Ireland. *The Geological Curator*, **6**, 233–236.

STRACHAN, I. 1996. A bibliographic index of British graptolites (Graptoloidea). Part 1. *Monograph of the Palaeontographical Society*, **150** (600), 1–40.